ABSTRACT

Disclosed is a method for determining the rotor position of a stationary or slowly rotating synchronous machine by evaluating electrical test pulses that are obtained by applying voltage pulses to the individual phase windings of the stator. Changes in the inductance of the phase windings which are caused by saturation of the stator iron depending on the rotor position, are determined in opposite directions or current by calculating differences in the amount of current of two test pulses, and angle values being predetermined by the number of the phase windings are associated with the differences in the amount of current. To enhance the measuring accuracy of the method, prior to the first test pulse I_{meas1}, a bias pulse I_{bias} whose polarity is inverted in relation to the first pulse I_{meas1} is generated, with the switch-on times t_1 of the associated voltage pulses U_{bias} and $-U_{meas1}$ being equal, and in that the respectively first test pulse I_{meas1} generated in the corresponding phase winding (U, V, W) acts as a bias pulse in the same phase winding (U, V, W).